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CLAIMS

WHAT IS CLAIMED IS:

1. A method of conducting data compression, comprising:

receiving multiple input data blocks for storage in a data storage subsystem;

applying a predetermined compression process to the data blocks;

evaluating application of the predetermined compression process according to

a predetermined compression criteria; and

if the compression fails to satisfy the predetermined compression criteria,

ceasing application of the predetermined compression process.

2. The method of claim 1, the predetermined compression process being performed individually to each of the received data blocks, the evaluating of application of the predetermined compression process according to a predetermined compression criteria comprising:

selecting a group of the received data blocks in accordance with a predetermined selection criteria;

for each data block in the selected group, determining a compression ratio between (1) the data block's size after application of the predetermined compression process, and (2) the data block's size prior to application of the predetermined compression process, and

for the selected group of received data blocks, determining how many data blocks have a compression ratio greater than a first threshold; and

if the number of data blocks having a compression ratio greater than the first threshold exceeds a second threshold, the compression satisfying the predetermined compression criteria.

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3.	The me	thod of	claim 2,	, the	selection	n of a	group	of the	received	data	a blo	ocks in
accorda	ance with	h a prede	etermine	ed se	lection o	riteria	comp	rising	selection	of o	data	blocks
in a fix	ked wind	dow.										

- 4. The method of claim 2, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a running window.
- The method of claim 1, the evaluating of application of the predetermined 5. compression process according to a predetermined compression criteria comprising: selecting a group of received data blocks in accordance with a predetermined selection criteria;
 - for all received data blocks in the selected group, determining an aggregate compression ratio between (1) the aggregate size of the data blocks after application of the predetermined compression process, and (2) the aggregate size of the data blocks prior to application of the predetermined compression process, and
 - determining whether the aggregate compression ratio exceeds a first threshold; and
 - if the aggregate compression ratio exceeds the first threshold, the compression satisfying the predetermined compression criteria.
- 6. The method of claim 5, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a fixed window.
- 7. The method of claim 5, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a running window.

. The method of claim 1, wherein:

the predetermined compression process is performed individually to each of the received data blocks; and

the cessation of application of the predetermined compression process comprises ceasing application of the predetermined compression process until satisfaction of a predetermined skip criteria, and then resuming application of the predetermined compression process.

9. The method of claim 8, predetermined skip criteria comprising expiration of predetermined time.

10. The method of claim 9, the cessation of application of the predetermined compression process further comprising:

storing data items received during cessation of the predetermined compression process without compression according to the predetermined compression process.

11. The method of claim 9, predetermined skip criteria comprising storage of a predetermined number of data items without compression according to the predetermined compression process.

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12. A programmed pr	duct comprising signal-bearing media tangibly embodying
a program of machine	readable instructions executable by a digital processing
apparatus to perform a	method for conducting data compression, said method
comprising:	

receiving multiple input data blocks for storage in a data storage subsystem; applying a predetermined compression process to the data blocks;

evaluating application of the predetermined compression process according to a predetermined compression criteria; and

if the compression fails to satisfy the predetermined compression criteria, ceasing application of the predetermined compression process.

13. The product of claim 12, the predetermined compression process being performed individually to each of the received data blocks, the evaluating of application of the predetermined compression process according to a predetermined compression criteria comprising:

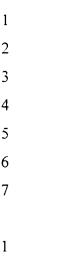
selecting a group of the received data blocks in accordance with a predetermined selection criteria;

for each data blocks in the selected group, determining a compression ratio between (1) the data block's size after application of the predetermined compression process, and (2) the data block's size prior to application of the predetermined compression process, and

for the selected group of received data blocks, determining how many data blocks have a compression ratio greater than a first threshold; and

if the number of data blocks having a compression ratio greater than the first threshold exceeds a second threshold, the compression satisfying the predetermined compression criteria.

	· · · · · · · · · · · · · · · · · · ·
1	14. The product of claim 13. the selection of a group of the received data blocks
2	in accordance with a predetermined selection criteria comprising selection of data
3	blocks in a fixed window.
1	15. The product of claim 13, the selection of a group of the received data blocks
2	in accordance with a predetermined selection criteria comprises selection of data
3	blocks in a running window.
-	16. The product of claim 12, the evaluating of application of the predetermined
12/1	compression process according to a predetermined compression criteria comprising:
3	selecting a group of received data blocks in accordance with a predetermined
	selection criteria;
	for all received data blocks in the selected group, determining an aggregate
1 6	compression ratio between (1) the aggregate size of the data blocks
텔 드 7	after application of the predetermined compression process, and (2) the
<u></u>	aggregate size of the data blocks prior to application of the
_ 9	predetermined compression process, and
76 77 8 29 10 110 12	determining whether the aggregate compression ratio exceeds a first threshold;
Ŧ1	and
12	if the aggregate compression ratio exceeds the first threshold, the compression
13	satisfying the predetermined compression criteria.
1	17. The product of claim 16, the selection of a group of the received data blocks
2	in accordance with a predetermined selection criteria comprising selection of data
3	blocks in a fixed window.
1	18. The product of claim 16, the selection of a group of the received data blocks
2	in accordance with a predetermined selection criteria comprising selection of data
3	blocks in a running window.
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19.	The product of cla	im 12, wherein:
	the predetermined	compression process is performed individually to each of
	the receive	d data blocks; and
	the cessation of	application of the predetermined compression process
	comprises	ceasing application of the predetermined compression
	process un	til satisfaction of a predetermined skip criteria, and then
	resuming a	pplication of the predetermined compression process.

- 020. The product of claim 19, predetermined skip criteria comprising expiration of a predetermined time.
- 21. The product of claim 20, the termination of application of the predetermined compression process further comprising storing data items received during cessation of the predetermined compression process without compression according to the predetermined compression process.
- 22. The product of claim 20, the resumption of application of the predetermined compression process after satisfaction of a predetermined skip criteria comprising: resuming application of the predetermined compression process after storage of a predetermined number of data items without compression according to the predetermined compression process.

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23.	A data storage subsystem, comprising:
	a storage unit to store digital data blocks;
	a storage controller coupled to the storage unit, and programmed to conduct
	a data compression process, the process comprising:
	receiving multiple input data blocks for storage in a data storage
	subsystem;
	applying a predetermined compression process to the data blocks;
	evaluating application of the predetermined compression process
	according to a predetermined compression criteria; and
	if the compression fails to satisfy the predetermined compression

24. The subsystem of claim 23, the predetermined compression process being performed individually to each of the received data blocks, the evaluating of application of the predetermined compression process according to a predetermined compression criteria comprising:

process.

selecting a group of the received data blocks in accordance with a predetermined selection criteria;

criteria, ceasing application of the predetermined compression

for each data blocks in the select group, determining a compression ratio between (1) the data block's size after application of the predetermined compression process, and (2) the data block's size prior to application of the predetermined compression process, and

for the selected group of received data blocks, determining how many data blocks have a compression ratio greater than a first threshold; and

if the number of data blocks having a compression ratio greater than the first threshold exceeds a second threshold, the compression satisfying the predetermined compression criteria.





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The subsystem of claim 24, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a fixed window.

The subsystem of claim 24, the selection of a group of the received data blocks 26. in accordance with a predetermined selection criteria comprising selection of data blocks in a running window.

The subsystem of claim 23, the evaluating of application of the predetermined 27. compression process according to a predetermined compression criteria comprising:

selecting a group of received data blocks in accordance with a predetermined selection criteria;

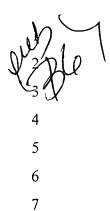
for all received data blocks in the selected group, determining an aggregate compression ratio between (1) the aggregate size of the data blocks after application of the predetermined compression process, and (2) the aggregate size of the data blocks prior to application of the predetermined compression process, and

determining whether the aggregate compression ratio exceeds a first threshold; and

if the aggregate compression ratio exceeds the first threshold, the compression satisfying the predetermined compression criteria.

The subsystem of claim 27, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a fixed window.

The subsystem of claim 27, the selection of a group of the received data blocks in accordance with a predetermined selection criteria comprising selection of data blocks in a running window.



The subsystem of claim 2th, wherein: 30.

> the predetermined compression process is performed individually to each of the received data/blocks; and

> the cessation of application of the predetermined compression process comprises ceasing application of the predetermined compression process until satisfaction of a predetermined skip criteria, and then resuming application of the predetermined compression process.

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The subsystem of *k*laim 30, predetermined skip criteria comprising expiration 31. of a predetermined time

The subsystem of claim 31, the termination of application of the predetermined 32. compression process further comprising:

storing data items received during cessation of the predetermined compression process without compression according to the predetermined compression prodess.

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The subsystem of claim/31, the resumption of application of the predetermined compression process after satisfaction of a predetermined skip criteria comprising: resuming application of the predetermined compression process after storage of a predetermined number of data items without compression according to the predetermined compression process.

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process.

A data storage subsystem, comprising:
storage means to store digital data blocks;
storage controller means, coupled to the storage unit, for conducting data compression process by:
receiving multiple input data blocks for storage in a data storage subsystem;
applying a predetermined compression process to the data blocks;
evaluating application of the predetermined compression process according to a predetermined compression criteria; and if the compression fails to satisfy the predetermined compression

criteria, ceasing application of the predetermined compression